

L Number	Hits	Search Text	DB	Time stamp
1	8931	stylus same mouse same event (right click\$4) with button same input\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 16:59
2	1	((stylus same mouse same event (right click\$4) with button same input\$4) and stylus with based with right near (click buton) with input	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 16:59
3	98	((stylus same mouse same event (right click\$4) with button same input\$4) and stylus with based with input	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:00
4	45	((stylus same mouse same event (right click\$4) with button same input\$4) and stylus with based with input) and right near2 (button click) same mouse	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:00
5	35	((stylus same mouse same event (right click\$4) with button same input\$4) and stylus with based with input) and right near2 (button click) same mouse same stylus	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:01
6	36	((stylus same mouse same event (right click\$4) with button same input\$4) and stylus with based with input) and right near2 (button click) same mouse same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:09
7	1	2003-658923.NRAN.	DERWENT	2004/08/17 17:09
8	9	((stylus pen) and input).ti. and right near2 (button click) same mouse same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:12
9	31	((stylus pen)).ti. and right near2 (button click) same mouse same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:18
10	226	right near2 (button click) same mouse same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:19
11	17	(right near2 (button click) same mouse same (stylus pen)) and generat\$4 same right with mouse with (click button) same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:22
12	23	(right near2 (button click) same mouse same (stylus pen)) and generat\$4 same right with mouse with (click button)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:39
13	14	(right near2 (button click) same mouse same (stylus pen)) and (generat\$4 provid\$4 produc\$4) with right with mouse with (click button)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:40

14	282	(generat\$4 provid\$4 produc\$4) with right with mouse with (click button)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:41
15	49	(generat\$4 provid\$4 produc\$4) with right with mouse with (click button) and (stylus pen) with input	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:41
16	6	(generat\$4 provid\$4 produc\$4) with right with mouse with (click button) same (stylus pen) with input	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:42
17	13	(generat\$4 provid\$4 produc\$4) with right with mouse with (click button) same (stylus pen)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/17 17:42



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stylus or pen input "right mouse button click"


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Relevance scale ☐ ☐ ☐ ☐ ☐**1** [Improving menu placement strategies for pen input](#)

Mark S. Hancock, Kellogg S. Booth

May 2004 **Proceedings of the 2004 conference on Graphics interface**Full text available: pdf(331.99 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

We investigate menu selection in circular and rectangular pop-up menus using stylus-driven direct input on horizontal and vertical display surfaces. An experiment measured performance in a target acquisition task in three different conditions: direct input on a horizontal display surface, direct input on a vertical display and indirect input to a vertical display. The third condition allows comparison of direct and indirect techniques commonly used for vertical displays. The results of the study ...

Keywords: direct input, handedness, horizontal display, indirect input, pen-input devices, tabletop display, vertical display

2 [Input interaction: Shorthand writing on stylus keyboard](#)

Shumin Zhai, Per-Ola Kristensson

April 2003 **Proceedings of the conference on Human factors in computing systems**Full text available: pdf(275.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose a method for computer-based speed writing, SHARK (shorthand aided rapid keyboarding), which augments stylus keyboarding with shorthand gesturing. SHARK defines a shorthand symbol for each word according to its movement pattern on an optimized stylus keyboard. The key principles for the SHARK design include high efficiency stemmed from layout optimization, duality of gesturing and stylus tapping, scale and location independent writing, Zipf's law, and skill transfer from tapping to sho ...

Keywords: handheld devices, mobile, pervasive computing, text input, text-entry

3 [Stylus user interfaces for manipulating text](#)

David Goldberg, Aaron Goodman

October 1991 **Proceedings of the 4th annual ACM symposium on User interface software and technology**Full text available: pdf(840.93 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**4** [Cirrin: a word-level unistroke keyboard for pen input](#)

Jennifer Mankoff, Gregory D. Abowd

November 1998 **Proceedings of the 11th annual ACM symposium on User interface software and technology**

Full text available:  pdf(27.69 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: pen-based text entry, unistroke gestures

5 An intelligent multi-layered input scheme for phonetic scripts

Shrinath Shanbhag, Durgesh Rao, R. K. Joshi

June 2002 **Proceedings of the 2nd international symposium on Smart graphics**

Full text available:  pdf(497.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

We introduce a new scheme for stylus-based input of phonetic scripts such as Indic, using a compact smart soft-keyboard. Phonetically related characters are grouped into layers and become dynamically available when the "group-leader" character is accessed. This scheme allows rapid input using taps and flicks. We have developed a prototype for Devanagari which covers the complete script using just 21 virtual keys, and preliminary tests indicate that it is very easy to use with little or no training ...

Keywords: hand-held devices, indic scripts, pen-based computing, self-disclosing characters, soft-keyboard, stylus-based input, text-entry

6 An efficient text input method for pen-based computers

Toshiyuki Masui

January 1998 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  pdf(1.06 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: POBox, hand-held devices, input devices, international interfaces, pen-based input, predictive interface

7 Input Devices: Comparison of two touchpad-based methods for numeric entry

Poika Isokoski, Mika Käki

April 2002 **Proceedings of the SIGCHI conference on Human factors in computing systems: Changing our world, changing ourselves**

Full text available:  pdf(1.11 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Small hand-held touchpads can be used to replace stylus-based digitizing tablets when the use of a stylus is not convenient. In text entry tasks where the writing surface is held in a hand the error rate becomes a problem. The small size of strokes compared to the width of the fingertip and the additional imprecision caused by the interaction of the pad and finger movements make input very imprecise. We describe a new improved clock-face based stroke system for entering numbers with a touchpad. ...

Keywords: clock metaphor, mobile devices, stylus overhead, writing

8 Touch-typing with a stylus

David Goldberg, Cate Richardson

May 1993 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  pdf(868.54 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



Keywords: Stylus, electronic pen, handwriting, pen-based computing, printing, recognition, shorthand, text entry

9 Stylus input and editing without prior selection of mode

Eric Saund, Edward Lank

November 2003 **Proceedings of the 16th annual ACM symposium on User interface software and technology**

Full text available:  pdf(423.04 KB)

 mov(2:6 MIN) 

wmv(2:6 MIN)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper offers a solution to the *mode* problem in computer sketch/notetaking programs. Conventionally, the user must specify the intended "draw" or "command" mode prior to performing a stroke. This necessity has proven to be a barrier to the usability of pen/stylus systems. We offer a novel *Inferred-Mode* interaction protocol that avoids the mode hassles of conventional sketch systems. The system infers the user's intent, if possible, from the properties of the pen trajectory and ...

Keywords: command, draw, inferred-Mode protocol, inkscribe, mode, pen, sketch, stylus

10 Pen computing: a technology overview and a vision

André Meyer

July 1995 **ACM SIGCHI Bulletin**, Volume 27 Issue 3

Full text available:  pdf(5.14 MB)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This work gives an overview of a new technology that is attracting growing interest in public as well as in the computer industry itself. The visible difference from other technologies is in the use of a pen or pencil as the primary means of interaction between a user and a machine, picking up the familiar pen and paper interface metaphor. From this follows a set of consequences that will be analyzed and put into context with other emerging technologies and visions. Starting with a short historic ...

11 Interface tools: Distributed architectures for pen-based input and diagram recognition

Wayne Citrin, Mark D. Gross

May 1996 **Proceedings of the workshop on Advanced visual interfaces**

Full text available:  pdf(1.25 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We present a system supporting pen-based input and diagram recognition that employs a personal digital assistant (PDA) as an intelligent input device for the system. Functionality is distributed between the PDA and the main computer, with the PDA performing low-level shape recognition and editing functions, and the back-end computer performing high-level recognition functions, including recognition of spatial relations between picture elements. This organization provides a number of advantages o ...

Keywords: diagram recognition, graphical editors, pen-based interfaces

12 A virtual oval keyboard and a vector input method for pen-based character input

Minako Hashimoto, Masatomo Togasi

May 1995 **Conference companion on Human factors in computing systems**


Full text available:  pdf(217.50 KB)

Additional Information: [full citation](#), [references](#), [index terms](#)

13 Improving selection performance on pen-based systems: a study of pen-based interaction for selection tasks

Xiangshi Ren, Shinju Moriya

September 2000 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 7
Issue 3


Full text available:  pdf(320.70 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

Keywords: classifications of selection strategies, mobile computing, pen-based input interfaces, pen-based systems, small targets, state-transition models, target selection strategies

14 Device independent text input: a rationale and an example

Poika Isokoski, Roope Raisamo

May 2000 **Proceedings of the working conference on Advanced visual interfaces**

Full text available:  pdf(1.18 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Individual characters and text are the main inputs in many computing devices. Currently there is a growing trend in developing small portable devices like mobile phones, personal digital assistants, GPS-navigators, and two-way pagers. Unfortunately these portable computing devices have different user interfaces and therefore the task of text input takes many forms. The user, who in the future is likely to have several of these devices, has to learn several text input methods. We argue that ...

Keywords: MDITIM, device independence, minimalism, portable devices, text input, unistrokes

15 An architecture for pen-based interaction on electronic whiteboards

Takeo Igarashi, W. Keith Edwards, Anthony LaMarca, Elizabeth D. Mynatt

May 2000 **Proceedings of the working conference on Advanced visual interfaces**

Full text available:  pdf(1.06 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes the software architecture for our pen-based electronic whiteboard system, called Flatland. The design goal of Flatland is to support various activities on personal office whiteboards, while maintaining the outstanding ease of use and informal appearance of conventional whiteboards. The GUI framework of existing window systems is too complicated and heavy-weight to achieve this goal, and so we designed a new architecture that works as a kind of window system for pen-base ...

Keywords: Flatland, GUI toolkit, architecture, implementation, pen computing, whiteboard

16 Late breaking result papers: Two-handed interaction on a tablet display

Ka-Ping Yee

April 2004 **Extended abstracts of the 2004 conference on Human factors and computing systems**

Full text available:  pdf(655.77 KB) Additional Information: [full citation](#), [abstract](#), [references](#)


A touchscreen can be overlaid on a tablet computer to support asymmetric two-handed interaction in which the preferred hand uses a stylus and the non-preferred hand operates the touchscreen. The result is a portable device that allows both hands to interact directly with the display, easily constructed from commonly available hardware. The method for tracking the independent motions of both hands is described. A wide variety of existing two-handed interaction techniques can be used on this platf ...

Keywords: asymmetric bimanual interaction, commodity hardware, tablet computing, touch-sensitive screens

17 Integration and synchronization of input modes during multimodal human-computer interaction

Sharon Oviatt, Antonella DeAngeli, Karen Kuhn

March 1997 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  pdf(1.18 MB)


Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: dynamic interactive maps, integration and synchronization, multimodal interaction, predictive modeling, spatial location information, speech and pen input

18 Manual and cognitive benefits of two-handed input: an experimental study

Andrea Leganchuk, Shumin Zhai, William Buxton

December 1998 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 5 Issue 4

Full text available:  pdf(537.49 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

One of the recent trends in computer input is to utilize users' natural bimanual motor skills. This article further explores the potential benefits of such two-handed input. We have observed that bimanual manipulation may bring two types of advantages to human-computer interaction: manual and cognitive. Manual benefits come from increased time-motion efficiency, due to the twice as many degrees of freedom simultaneously available to the user. Cognitive benefits arise as a result of reducing ...

Keywords: bimanual input, input devices, two-handed input

19 Acoustic radar graphic input device

P. de Bruyne

July 1980 **ACM SIGGRAPH Computer Graphics , Proceedings of the 7th annual conference on Computer graphics and interactive techniques**, Volume 14 Issue 3

Full text available:  pdf(451.02 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



Accurate X,Y position determining digitizers presently require a precision array of wires embedded in the tablet. In rear-projection tablets these wires tend to limit the optical quality of images projected on the screen. Principles of acoustic radar are applied in a device which achieves better resolution, at a lower cost and without the use of wires, either in a tablet or a cursor. The function of acoustic reflectors for automatic calibration is described, achieving an accuracy of + mn; 0 ...

Keywords: Acoustic radar, Back-projection, Cursor, Digitizer, Finger-pointing, Graphic input, Position measurement, Retro-reflector, Self-calibrating, Sonar, Stylus, Tablet

20 Pen computing for air traffic control

Stéphane Chatty, Patrick Lecoanet

April 1996 **Proceedings of the SIGCHI conference on Human factors in computing systems: common ground**

Full text available:  pdf(1.78 MB)  html(46.49 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: air traffic control, direct manipulation, gesture recognition, mark-based input, pen computing, prototyping, touch-screen

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